

**AMENDMENTS TO THE DRAWINGS:**

Figures 1 has been amended to add a legend of "Prior Art", as shown in the attached drawing Replacement Sheet containing Figures 1 and 2. Applicant respectfully requests that the attached drawing Replacement Sheet be entered and associated with this application.

Attachment 1: drawing Replacement Sheet containing Figures 1 and 2.

**REMARKS**<sup>1</sup>

In the Office Action, the Examiner took the following actions:

1. objected to the drawings;
2. rejected claims 1, 2, and 11 under 35 U.S.C. § 103(a) as being unpatentable over alleged applicant admitted prior art (“AAPA”) in view of U.S. Patent App. Pub. No. 2003/0031125 to Oyamada et al. (“*Oyamada*”);
3. rejected claims 3 and 4 under 35 U.S.C. § 103(a) as being unpatentable over AAPA in view of *Oyamada*, and further in view of U.S. Patent App. Pub. No. 2006/0193248 to Filsfils et al. (“*Filsfils*”);
4. rejected claims 5-9 and 12-15 under 35 U.S.C. § 103(a) as being unpatentable over AAPA in view of *Oyamada*, and further in view of U.S. Patent No. 7,343,423 to Goguen et al. (“*Goguen*”); and
5. rejected claims 10, 16, and 17 under 35 U.S.C. § 103(a) as being unpatentable over AAPA in view of *Oyamada* and *Goguen*, and further in view of *Filsfils* and Official Notice.

By this Amendment, Applicant has amended claims 2, 5, 8, 10, 11-13, 16, and 17.

Claims 1-17 remain pending and under current examination. Applicant respectfully requests reconsideration and allowance of the application for at least the reasons set forth below.

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<sup>1</sup> As Applicant’s remarks with respect to the Examiner’s rejections are sufficient to overcome these rejections, Applicant’s silence as to certain assertions or requirements applicable to such rejections (e.g., whether a reference constitutes prior art, motivation to combine references, etc.) is not a concession by Applicant that such assertions are accurate or such requirements have been met, and Applicant reserves the right to analyze and dispute such in the future.

**Objection to Drawings**

The Examiner objected to the drawings, asserting that “Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated.” Office Action, p. 2. In response, Applicant submits the attached Replacement Sheet containing amended Figure 1, which is designated by --Prior Art--. Accordingly, Applicant respectfully requests that the Examiner reconsider and withdraw the objection to the drawings.

**Rejection of Claims 1, 2, and 11 under 35 U.S.C. § 103(a)**

Applicant respectfully traverses the rejection of claims 1, 2, and 11 under 35 U.S.C. § 103(a) as being unpatentable over AAPA in view of *Oyamada*. A *prima facie* case of obviousness has not been established.

“The key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. … [R]ejections on obviousness cannot be sustained with mere conclusory statements.” M.P.E.P. § 2142, 8th Ed., Rev. 6 (Sept. 2007) (internal citation and inner quotation omitted). “The mere fact that references can be combined or modified does not render the resultant combination obvious unless the results would have been predictable to one of ordinary skill in the art.” M.P.E.P. § 2143.01(III) (emphasis in original). “All words in a claim must be considered in judging the patentability of that claim against the prior art.” M.P.E.P. § 2143.03. “In determining the differences between the prior art and the claims, the question under 35 U.S.C. 103 is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious.” M.P.E.P. § 2141.02(I) (emphases in original).

“[T]he framework for objective analysis for determining obviousness under 35 U.S.C. 103 is stated in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966). … The factual

inquiries ... [include determining the scope and content of the prior art and] ... [a]scertaining the differences between the claimed invention and the prior art." M.P.E.P. § 2141(II). "Office personnel must explain why the difference(s) between the prior art and the claimed invention would have been obvious to one of ordinary skill in the art." M.P.E.P. § 2141(III).

Independent claim 1 calls for a combination including, for example, "setting routing information of at least two tunnels, by a double-ascrption Provider Edge (PE) of a remote Customer Edge (CE) in the double-ascrption PE itself, wherein, an initial node of the tunnels is the double-ascrption PE of the remote CE, and a terminal node of each of the tunnels is a PE which is connected with the remote CE respectively, wherein the routing information of the at least two tunnels are stored in a forwarding table item of a route forwarding table." The Office asserted that AAPA teaches these elements. *See* Office Action, p. 3. However, this assertion is not correct.

Specifically, AAPA teaches that "[t]he PE-E selects the route advertised by the PE-A as the optimal route, then the PE-E fills in a forwarding item used by a forwarding engine only the routing information advertised by the PE-A." Specification, par. [0011], (emphases added).

According to AAPA, "PE-E can detect the malfunction of the PE-A only through information, such as a Border Gateway Protocol (BGP) neighbor breaks down or an outer layer LSP tunnel is unavailable, etc." Specification, par. [0013]. When PE-E detects the malfunction of PE-A, PE-E needs to "re-select[] the [] route advertised by the PE-B. Meanwhile, the PE-E fills in the forwarding item of the forwarding engine [only] with the new routing information [advertised by PE-B]." Specification, par. [0013]. Thus, during the period from the malfunction of PE-A to PE-E filling in the forwarding item with the new routing information, CE-B is unable to access the CE-A, and the end-to-end service is interrupted. *See* specification, par. [0014].

In view of the above, AAPA does not teach or suggest that the double-ascrption PE “set[s] routing information of at least two tunnels . . . in the double-ascrption PE itself,” as recited in claim 1 (emphasis added).

Moreover, AAPA at best teaches filling in the forwarding item with routing information either advertised either by PE-A or by PE-B. There are nevertheless no teachings or suggestions in AAPA that “the routing information of the at least two tunnels are stored in a forwarding table item of a route forwarding table,” as recited in claim 1 (emphasis added).

According to embodiments of the present invention, when the double-ascrption PE detects the malfunction of the PE-A, the PE-E does not need to re-select the new route “advertised by the PE-B.” Rather, since the double-ascrption PE according to embodiments of the present invention stores the routing information of the at least two tunnels in a forwarding table item, the double-ascrption PE can select one or more available tunnels from the at least two tunnels in order to continue the end-to-end service.

For at least the reasons discussed above, AAPA fails to teach or suggest at least “setting routing information of at least two tunnels, by a double-ascrption Provider Edge (PE) of a remote Customer Edge (CE) in the double-ascrption PE itself, wherein, an initial node of the tunnels is the double-ascrption PE of the remote CE, and a terminal node of each of the tunnels is a PE which is connected with the remote CE respectively, wherein the routing information of the at least two tunnels are stored in a forwarding table item of a route forwarding table,” as recited in claim 1.

*Oyamada* fails to cure the deficiencies of AAPA. *Oyamada* provides an OSI tunnel routing method and apparatus. *Oyamada* discloses that an IP packet encapsulated in an OSI packet is transmitted between transmission apparatuses in an OSI network connected to an IP network.

Each of the transmission apparatuses generates an OSI tunnel table which includes the OSI network address and the reachable IP network addresses. *See Oyamada, Abstract.* When the transmission apparatus receives a message, the transmission apparatus judges whether the received message is a notification of failure occurrence in the OSI tunnel. *See Oyamada, pars. [0093]-[0094].* If the message is the failure occurrence notification, and there is an alternative route, the OSI tunnel protocol processing part generates an OSI tunnel by using a new route. *See Oyamada, par. [0095].*

According to *Oyamada*, an OSI tunnel table is mainly applied in interconnected networks between an IP network and an OSI network. *See Oyamada, FIG.14 and par. [0078].* This is different from a route forwarding table that is applied in a double-ascrption network model according to embodiments of the present invention. *See specification, par. [0016].*

Although *Oyamada* discloses an OSI tunnel table, the content of the OSI tunnel table of *Oyamada* differs from the “route forwarding table” recited in claim 1. According to FIGS.13 and 16 of *Oyamada*, the “status” of the OSI tunnel table is all “inactive” status, a transmission apparatus can receive a failure occurrence notification. If there is an alternative route for failed route, the OSI tunnel protocol processing part generates an OSI tunnel by using a new route. *See Oyamada, FIG.13 and FIG.16, par. [0095].* This is different from “setting routing information of at least two tunnels[] by a double-ascrption [] PE” as recited in claim 1. As recited in claim 1, “the routing information of the at least two tunnels are stored in a forwarding table item of a route forwarding table.” Therefore, a double-ascrption PE consistent with embodiments of the present invention does not need to perform the step of judging whether there is an alternate route for failed route, and does not need to involve the step of generating an OSI tunnel by using a new route.

In view of the above, *Oyamada* also fails to teach or suggest “setting routing information of at least two tunnels, by a double-ascrption Provider Edge (PE) of a remote Customer Edge (CE) in the double-ascrption PE itself, wherein, an initial node of the tunnels is the double-ascrption PE of the remote CE, and a terminal node of each of the tunnels is a PE which is connected with the remote CE respectively, wherein the routing information of the at least two tunnels are stored in a forwarding table item of a route forwarding table,” as recited in claim 1, and thus does not compensate for the deficiencies of AAPA.

For at least the reasons discussed above, the Office has neither properly determined the scope and content of the prior art nor properly ascertained the differences between the prior art and the invention of claim 1. Moreover, there is no motivation for one of ordinary skill in the art to modify the references to achieve the claimed combination. Thus, no reason has been clearly articulated as to why claim 1 would have been obvious to one of ordinary skill in the art in view of the prior art. Accordingly, a *prima facie* case of obviousness has not been established with respect to claim 1, and claim 1 is allowable.

Independent claim 11, although different in scope from independent claim 1, recites elements similar to those of claim 1. As such, for reasons similar to those discussed above in regard to the rejection of claim 1, claim 11 is allowable. Claim 2 is also allowable at least by virtue of its dependence from claim 1.

**Rejection of Claims 3 and 4 under 35 U.S.C. § 103(a)**

Applicant respectfully traverses the rejection of claims 3 and 4 under 35 U.S.C. § 103(a) as being unpatentable over AAPA in view of *Oyamada*, and further in view of *Filsfils*. A *prima facie* case of obviousness has not been established.

Claims 3 and 4 depend from claim 1, and thus include all the elements thereof. As discussed above in regard to the rejection of claim 1, AAPA and *Oyamada*, whether taken alone or in combination, fail to teach or suggest at least “setting routing information of at least two tunnels, by a double-ascrption Provider Edge (PE) of a remote Customer Edge (CE) in the double-ascrption PE itself, wherein, an initial node of the tunnels is the double-ascrption PE of the remote CE, and a terminal node of each of the tunnels is a PE which is connected with the remote CE respectively, wherein the routing information of the at least two tunnels are stored in a forwarding table item of a route forwarding table,” as recited in claim 1 and included in claims 3 and 4.

The Office asserted that *Filsfils* teaches elements of claims 3 and 4. See Office Action, pp. 5-6. Without acquiescing to this assertion, Applicant respectfully submits that *Filsfils* also fails to teach or suggest the above-noted elements, and thus does not cure the deficiencies of AAPA and *Oyamada*.

For at least this reason, the Office has neither properly determined the scope and content of the prior art nor properly ascertained the differences between the prior art and the invention of claims 3 and 4. Moreover, there is no motivation for one of ordinary skill in the art to modify the references to achieve the claimed combination. Thus, no reason has been clearly articulated as to why claims 3 and 4 would have been obvious to one of ordinary skill in the art in view of the prior art. Accordingly, a *prima facie* case of obviousness has not been established with respect to claims 3 and 4, and the claims are allowable.

Therefore, Applicant respectfully requests that the Examiner reconsider and withdraw the rejection of claims 3 and 4 under 35 U.S.C. § 103(a).

**Rejection of Claims 5-9 and 12-15 under 35 U.S.C. § 103(a)**

Applicant respectfully traverses the rejection of claims 5-9 and 12-15 under 35 U.S.C. § 103(a) as being unpatentable over AAPA in view of *Oyamada*, and further in view of *Goguen*. A *prima facie* case of obviousness has not been established.

Claims 5-9 and 12-15 depend from claim 1, and thus include all the elements thereof. As discussed above in regard to the rejection of claim 1, AAPA and *Oyamada*, whether taken alone or in combination, fail to teach or suggest at least “setting routing information of at least two tunnels, by a double-ascrption Provider Edge (PE) of a remote Customer Edge (CE) in the double-ascrption PE itself, wherein, an initial node of the tunnels is the double-ascrption PE of the remote CE, and a terminal node of each of the tunnels is a PE which is connected with the remote CE respectively, wherein the routing information of the at least two tunnels are stored in a forwarding table item of a route forwarding table,” as recited in claim 1 and included in claims 5-9 and 12-15.

The Office asserted that *Goguen* teaches elements of claims 5-7, 9, 14, and 15. See Office Action, pp. 7-8. Without acquiescing to this assertion, Applicant respectfully submits that *Goguen* also fails to teach or suggest the above-noted elements, and thus does not cure the deficiencies of AAPA and *Oyamada*.

For at least this reason, the Office has neither properly determined the scope and content of the prior art nor properly ascertained the differences between the prior art and the invention of claims 5-9 and 12-15. Moreover, there is no motivation for one of ordinary skill in the art to modify the references to achieve the claimed combination. Thus, no reason has been clearly articulated as to why claims 5-9 and 12-15 would have been obvious to one of ordinary skill in

the art in view of the prior art. Accordingly, a *prima facie* case of obviousness has not been established with respect to claims 5-9 and 12-15, and the claims are allowable.

Therefore, Applicant respectfully requests that the Examiner reconsider and withdraw the rejection of claims 5-9 and 12-15 under 35 U.S.C. § 103(a).

**Rejection of Claims 10, 16, and 17 under 35 U.S.C. § 103(a)**

Applicant respectfully traverses the rejection of claims 10, 16, and 17 under 35 U.S.C. § 103(a) as being unpatentable over AAPA in view of *Oyamada* and *Goguen*, and further in view of *Filsfils* and Official Notice. A *prima facie* case of obviousness has not been established.

Claims 10, 16, and 17 depend from claims 5, 6, and 7, respectively, and thus include all the elements thereof. As discussed above in regard to the rejection of claims 5-7, AAPA, *Oyamada*, and *Goguen*, whether taken alone or in combination, fail to teach or suggest at least “setting routing information of at least two tunnels, by a double-ascrption Provider Edge (PE) of a remote Customer Edge (CE) in the double-ascrption PE itself, wherein, an initial node of the tunnels is the double-ascrption PE of the remote CE, and a terminal node of each of the tunnels is a PE which is connected with the remote CE respectively, wherein the routing information of the at least two tunnels are stored in a forwarding table item of a route forwarding table,” as recited in claim 1 and included in claims 5-9 and 12-15.

The Office asserted that *Filsfils* teaches elements of claims 10, 16, and 17. *See* Office Action, pp. 9-10. Without acquiescing to this assertion, Applicant respectfully submits that *Filsfils* also fails to teach or suggest the above-noted elements, and thus does not cure the deficiencies of AAPA, *Oyamada*, and *Goguen*.

Moreover, Applicant respectfully traverses the Examiner’s apparent reliance on personal knowledge by Official Notice. M.P.E.P. § 2144.03(C) states “[i]f the examiner is relying on

personal knowledge to support the finding of what is known in the art, the examiner must provide an affidavit or declaration setting forth specific factual statements and explanation to support the finding" (emphases added). Further, M.P.E.P. § 2144.03(A) states, "[o]fficial notice without documentary evidence to support an examiner's conclusion is permissible only in some circumstances . . . [o]fficial notice unsupported by documentary evidence should only be taken by the examiner where the facts asserted to be well-known, or to be common knowledge in the art are capable of instant and unquestionable demonstration as being well-known." Because the Examiner appears to be asserting Official Notice based on personal knowledge, Applicant requests the Examiner provide documentary evidence as required by the M.P.E.P. should any rejection be maintained in the next official communication based on Official Notice. In addition, Applicant asserts that it is not old and well known to use load sharing tunnels.

For at least this reason, the Office has neither properly determined the scope and content of the prior art nor properly ascertained the differences between the prior art and the invention of claims 10, 16, and 17. Moreover, there is no motivation for one of ordinary skill in the art to modify the references to achieve the claimed combination. Thus, no reason has been clearly articulated as to why claims 10, 16, and 17 would have been obvious to one of ordinary skill in the art in view of the prior art. Accordingly, a *prima facie* case of obviousness has not been established with respect to claims 10, 16, and 17, and the claims are allowable.

Therefore, Applicant respectfully requests that the Examiner reconsider and withdraw the rejection of claims 10, 16, and 17 under 35 U.S.C. § 103(a).

### **CONCLUSION**

In view of the foregoing amendments and remarks, Applicant respectfully requests reconsideration of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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